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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/432,272	11/02/1999	TOSHIHISA SARUTA	4947-0086-2	9833

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EXAMINER

NGHIEM, MICHAEL P

ART UNIT PAPER NUMBER

2863

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/432,272

Applicant(s)

SARUTA ET AL.

Examiner

Michael P Nghiem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-20 and 23-114 is/are pending in the application.
- 4a) Of the above claim(s) 4, 24-34, 45-54, 59-71 and 78-93 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 15, 16, 18-20, 23, 35, 37, 55, 56, 72-77, 94-98, 100-102, 104-109 and 111-114 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5-9, 11-14, 17, 36, 38-44, 57, 58, 99, 103 and 110 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 23, 24, 25.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The Amendment filed on December 16, 2002 has been acknowledged.

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 99, "... the second memory area is located at a first half of an entire memory space of the non-volatile serial access memory" is not supported by the specification.

Claim Objections

2. Claims 35 and 97 are objected to because of the following informalities:

- claim 35, before "pieces" (last line) should "other" be deleted?
- claim 97, "an other" should be -- another --.

Appropriate correction is required.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 15, 16, 18-20, 23, 35, 37, 55, 56, 72-77, 94-96, 98, 100-102, 104-109, and 111-114 are rejected under 35 U.S.C. 102(b) as being anticipated by Murray et al. (US 5,610,635).

Murray et al. discloses all the claimed features of the invention including:

- an inkjet printer (Fig. 1) and a method of writing plural pieces of specific information into an ink cartridge (52) configured to be detachably attached to the printer (Fig. 1), said ink cartridge comprising:

- an ink reservoir (reservoir of 52) in which an ink used for printing is kept;
- a storage unit (48) storing specific information in a readable, writable, and non-volatile manner (EPROM or flash, Abstract, lines 13-14), wherein the specific information comprises an ink quantity-relating information relating to a quantity of ink kept in said ink reservoir (Abstract, lines 12-13),

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- wherein the storage unit is sequentially accessed in synchronism with a clock signal (via clock of 91), and has an ink quantity information storage area (storage area of 48) storing the ink quantity-relating information (data relating to initial ink and ink remaining volumes, column 9, lines 51-52, 57-59), and wherein the ink quantity information storage area is located at a specific area accessed for rewriting first by said printer (ink remaining volume has to be updated and accessed first before a large print job is started, column 9, lines 51-65);

- said storage unit having a first storage area (storage area in 48), in which a plurality of read only information is stored (storage area of 48 storing initial volume of ink), and a second storage area, which is arranged at a location accessed for rewriting prior to the first storage area (storage area of 48 storing data relating to remaining ink quantity);

- the rewritable information stored in the second storage area comprises a piece of information on a remaining quantity of ink in said ink reservoir, wherein the piece of information on the remaining quantity of ink is calculated by said printer from an amount of ink consumption used for printing (column 9, lines 52-57);

- the second storage area has at least two memory divisions, into which a latest piece of information on the remaining quantity of ink is written sequentially (column 10, lines 1-7);

- said storage unit is an EEPROM (Abstract, line 14);

- rewriting the ink quantity-relating information into said storage element (remaining ink related data is updated in 48);

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- an address counter (86) that carries out either one of a count-up operation (Fig. 5);

- said storage element stores format information relating to items of information stored therein (i.e. ink type, column 10, lines 1-16);

- a maximum amount of the first data that the first storage area can store is equal to a maximum amount of the second data that the second storage area can store (ink type vs. ink color);

- at least one of the read-only data and the data comprises a plurality of data records, and the data records are sequentially arranged (column 10, lines 1-7);

- a first said data record has a first size and a second said data record has a second size, and the first and second sizes are different (ink type vs. ink delivered, column 10, lines 1-7).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 97 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murray et al..

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Even though Murray et al. does not disclose that the printer accesses the ink quantity information storage area after accessing another portion of the storage unit, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to access, during ink cartridge replacement, the ink type data (column 10, line 3) before accessing the amount of ink remaining data (column 10, lines 6-7) for the purpose of ensuring that a proper ink cartridge is inserted.

Allowable Subject Matter

5. Claims 2, 3, 5-9, 11-14, 17, 36, 38-44, 57, 58, 99, 103, and 110 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons For Allowance

6. The combination or method as claimed wherein said ink reservoir comprises a specific number of ink chambers corresponding to a number of different inks used for printing (claims 2, 17, 57) or the ink quantity information storage area is a first storage area located at a head of the plurality of storage areas included in said storage unit (claim 11) or the ink quantity information storage area is a last storage area located at an end of the storage areas included in said storage unit (claim 12) or the

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writing operation of the ink quantity-relating information into said storage element is carried out at a time of replacement of said ink cartridge and/or at a power-off time of said printer (claim 36) or arranging the plural pieces of specific information in a certain sequence that allows the pieces of information relating to the quantities of the at least three different color inks to be located in a storage capacity of at least three bytes from a head (claims 38, 39) or the second memory area is located at a first half of an entire memory space of the non-volatile serial access memory (claim 99) or the read-only data reflects a serial number of the ink cartridge and an indication as to whether the ink cartridge is new or recycled (claims 103, 110) is not disclosed, suggested, or made obvious by the prior art of record.

Response to Arguments

7. Applicant's arguments filed on December 16, 2002 have been fully considered but they are not persuasive.

With respect to the 35 USC 102 rejections, Applicants argue that Murray does not teach that the ink reservoir has at least three ink chambers or five ink chambers.

Since this argument appears to be directed to claims 5 and 6, in response, Examiner withdraws the rejections of these claims.

Applicants further argue that Murray does not even suggest that the retained information be stored in specific regions of the memory element, much less that

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different types of retained information be stored in the memory element in different places according to the type of information that is stored.

Examiner's position is that any region in which information are stored is considered to be a "specific" region in memory as opposed to regions in which information is not stored. Murray discloses that different types of retained information (column 10, lines 1-7) be stored in the memory element (48) in different places according to the type of information that is stored (each data occupies a minimum of one byte (8 bits) of memory).

Applicants further argue that Murray does not discriminate between types of data, meaning that one following Murray's teachings would be equally likely to update the memory element with other types of information, in which case the ink quantity relating information would be discriminated against, not preferred.

Applicants arguments seem to be directed to claim 35 and support the argument that Murray teaches the claimed invention "... rewriting the ink quantity-relating information into said storage element, preferentially over the **other** pieces of specific information".

Nevertheless, as discussed above, Murray teaches rewriting the ink quantity-relating information into said storage element (column 9, lines 51-65). The phrase "**preferentially** over the other pieces of specific information" does not contain much patentable weight since it recites an optional limitation.

The 35 USC 103 rejections of claims 6 and 39 have been withdrawn.

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Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (703) 306-3445. The examiner can normally be reached on M-H from 6:30AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached at (703) 308-3126. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


MICHAEL NGHIEM
PRIMARY EXAMINER

Michael Nghiem

March 17, 2003